URS

January 9, 2009

Ms. Terese VanDonsel
United States Environmental Protection Agency
Office of Superfund, Region 5
SR-6J
77 West Jackson
Chicago, IL 60604-3590

Subject: Detrex Corporation's Comment Response Report to
U.S. EPA's Review of the Sediment Investigation /
Removal Work Plan DS Tributary (Work Plan),
The Draft Operations and Maintenance Plan (O&M Plan),
And The Draft Health and Safety Plan (HASP) for
Detrex Source Control Area – Fields Brook Superfund Site
Detrex Corporation, Ashtabula, Ohio
Docket No. V-W-98-C-450

Dear Ms. VanDonsel:

On behalf of Detrex Corporation (Detrex), URS Corporation (URS) is submitting two (2) copies of *Detrex Corporation's Comment Response Report to U.S. EPA's Review of the Sediment Investigation / Removal Work Plan DS Tributary (Work Plan), the Draft Operations and Maintenance Plan (O&M Plan), and the Draft Health and Safety Plan (HASP)* for Detrex Source Control Area – Fields Brook Superfund Site located in Ashtabula, Ohio. Upon review and approval the attached document, Detrex plans to revise reports referenced for final submittal to U.S. EPA.

If you have any questions regarding this submittal, please do not hesitate to contact either Tom Steib at 440-997-6131 or me at 216-622-2432 at your convenience.
Sincerely,

URS Corporation - Ohio

Martin L. Schmidt, Ph.D.
Vice President

Enclosure

cc: R. Currie – Detrex Corporation
T. Doll - Detrex Corporation
R. Williams – Ohio EPA
T. Steib – Detrex Corporation
R. Rule – *de maximis inc.*
D. Gray – URS

DETREX CORPORATION'S COMMENT RESPONSE REPORT TO
U.S. EPA'S REVIEW OF THE
SEDIMENT INVESTIGATION / REMOVAL WORK PLAN DS TRIBUTARY (WORK PLAN),
THE DRAFT OPERATIONS AND MAINTENANCE PLAN (O&M PLAN),
AND THE DRAFT HEALTH AND SAFETY PLAN (HASP) FOR
DETREX OPERABLE UNIT AND THE DS TRIBUTARY PORTION
OF THE FIELDS BROOK SUPERFUND SITE
ASHTABULA, OHIO
DOCKET NO.: V-W-98-C-450

Detrex Corporation (Detrex) has received the United States Environmental Protection Agency's (USEPA) review of the Sediment Investigation / Removal Work Plan DS Tributary (Work Plan), the Draft Operations and Maintenance Plan (O&M Plan), and the draft Health and Safety Plan (HASP) for Detrex Operable Unit and the DS Tributary Portion of the Fields Brook Superfund Site Ashtabula, Ohio. Upon review of the USEPA comments received by Detrex Corporation on October 13, 2008, a conference call was scheduled and held for October 23, 2008. It was determined that Detrex did not agree with some of the comments and it was discussed during the October 2008 conference. As a result of this conference call, further clarification was required. In order to respond to these comments, Detrex has agreed to submit a comment response report prior to revising these documents.

GENERAL WORK PLAN COMMENTS:

USEPA Comment No. 1:

The Work Plan indicates that previously remediated areas of the DS Tributary are not included in the present Work Plan. However, during the summer of 2007 and this year, additional contamination was removed from the Fields Brook flood plain. The work plan should either explain why it is believed that the DS Tributary did not become recontaminated or propose investigations to demonstrate that the previously investigation areas, including the downstream portions of the DS Tributary have not become recontaminated. In addition, newly found contamination in Fields Brook is significantly deeper than previously identified. Areas previously addressed may not have been sufficiently investigated, with cleanup actions insufficiently deeper to address all contamination.

Detrex Response to USEPA Comment No. 1:

Detrex will revise the Work Plan to indicate that the contamination identified in the DS Tributary and Fields Brook are not related other than being the results of historical releases. Any newly found contamination in Fields Brook that is deeper cannot be related to material in the DS Tributary. In 2001, only two portions of the DS Tributary were remediated. The area where DNAPL has been observed near State Road was not remediated in 2001. It is likely that this residual material has remained here and is not related to any alleged ineffectiveness of Detrex remedies. Sediment sampling results provided by FBAG in December 2008, indicate only two sampling locations very close to State Road are above previously established sediment remediation goals. At this time, Detrex is reviewing historical data from the 1990s to verify conditions in the DS Tributary.

USEPA Comment No. 2:

The Work Plan does not present a Conceptual Site Mode (CSM) or hypothesis for the cause of the DS Tributary contamination that the Work Plan will investigate/validate by additional data collection (e.g., mechanism for DNAPL migration). The Work Plan also does not present a review and analysis of the historical and recent data (August 2006) collected on the western portion of the Detrex property and in the DS Tributary, and the State Road area. The adequacy of the proposed investigation plan is very difficult to review without such a presentation and analysis of the data and an overall CSM.

Detrex Response to USEPA Comment No. 2:

Detrex would like to mention that this Work Plan for investigating the DS Tributary was prepared at the request of USEPA as noted in their letter dated March 27, 2008. The letter specifically requested that Detrex prepare a Work Plan for DNAPL investigation and removal. It was specifically requested that borings and excavations should go at least three feet into the clay underlying sediment and flood plain soils. Also, it was recommended that investigational borings and excavations be closely coordinated.

At this time, Detrex considers this Work Plan to be adequate for investigating the sediment and potential impact in the DS Tributary. Upon completion of this work

and additional work that is being proposed by Detrex along the western property and in the source area, a revised Conceptual Site Model will be prepared.

As indicated in the submitted Work Plan, only portions of the DS Tributary were excavated in 2001. The area where DNAPL has been observed is in an area that was not previously remediated and is adjacent to the State Road Bridge, which was also not previously remediated. A possible hypothesis at this time is that the impacted sediment in this area was here prior to 2001.

As FBAG has indicated it is not possible for DNAPL to migrate uphill. Based on the depth to DNAPL on the Detrex facility, this material could not have migrated to the surface of DS Tributary at State Road because it is approximately 20 feet deeper in the Detrex source area.

USEPA Comment No. 3:

Hand augering is not an effective method for DNAPL identification because stringers and pools of DNAPL could easily be overlooked, especially if the locations are spaced 30 to 50 feet apart. In contrast, trenching allows for accumulation and visual examination of DNAPL. The number of exploratory trenches should be expanded. Where hand augering is to be used, the general approach should be logically tied to field screening results with follow-up trenching based on an indication of subsurface VOC contamination.

Detrex Response to USEPA Comment No. 3:

As described in Section 3.1, hand augering was proposed as a reconnaissance survey to identify previously remediated areas and overall conditions of sediment thickness and impact. Hand augering was not planned for deep sampling or investigation. As requested, Detrex will expand the number of exploratory trenches. Approximately 20 trench excavations will be planned for the DS Tributary. If field conditions indicate the need for additional characterization, then Detrex will consider the installation of additional trench excavations.

USEPA Comment No. 4:

The proposed investigation does not appear to extend to the lowest elevation that dense non-aqueous phase liquid (DNAPL) has been found within the Detrex facility or within

Fields Brook and the Fields Brook flood plain. Because of the contamination found within Fields Brook and the Fields Brook flood plain since August 2007, investigation is warranted at the lowest elevation of one or more of the following areas as applicable: (1) the elevation where product ahs been found in the Fields Brook flood plain (2) the lowest elevation at which any of the DNAPL extraction wells are set, and (3) the lowest elevation at which DNAPL was previously identified. The purpose of investigation to this elevation is to determine the presence or absence of DNAPL and potential migration pathways at those elevations.

Detrex Response to USEPA Comment No. 4:

Detrex has discussed this issue with U.S. EPA. At this time, Detrex is proposing additional site investigative work along the western property boundary to evaluate deep soil conditions. As described in Western Area Scope of Work, the depth of drilling will be the lowest elevation where DNAPL has been identified in Fields Brook. This work is to include five (5) test trenches and five (5) soil borings converted to monitoring wells. Soil borings will be drilled through the glacial till soils and terminate at the top of the shale bedrock. Shallow and deep monitoring wells will be installed.

USEPA Comment No. 5:

The scales of Figures 2A and 2B should be verified (see Specific Comment Nos. 3 and 6 below). Additionally, the north arrow on Figure 2A is pointing west, not north.

Detrex Response to USEPA Comment No. 5:

The scales on Figures 2A and 2B have been checked. The north arrow on Figure 2A will be corrected.

USEPA Comment No. 6:

The Work Plan should be revised to identify the proposed source for the backfill material.

Detrex Response to USEPA Comment No. 6:

If impacted material is encountered, it will be removed. Backfill used to fill the trenches will come from a clean portion of the Detrex facility. Samples will be collected to verify clean backfill.

SPECIFIC WORK PLAN COMMENTS:

USEPA Comment No. 7:

Section 1, Page 1-1, Paragraph 2: The text states that DNAPL "was not observed in any piezometers." Neither the text nor figures indicate the locations of these piezometers.

Detrex Response to USEPA Comment No. 7:

A figure showing locations of piezometers sampled will be included in Appendix C of the Work Plan.

USEPA Comment No. 8:

Section 1, Page 1-1, Paragraph 3: The text states that "samples will be collected at least three feet into the clay underlying sediment and floodplain soils and deeper in areas where structures penetrate the underlying clay." The text does not explain why the sampling depth of 3 feet into the clay soils was chosen, either based on previous sampling data and/or the 2001 remedial actions. Note the general comment regarding the determination of an appropriate investigation depth.

Detrex Response to USEPA Comment No. 8:

The reason for selection of sampling to a depth of three feet into clay soils is based on the request from USEPA submitted on March 27, 2008. In this letter, USEPA specifically requested a Work Plan for the DS Tributary area. In paragraph 3 on page 2, USEPA indicated that "Borings and excavations should go at least three feet into the clay underlying the sediment and floodplain soils and deeper where structures penetrates the clay."

USEPA Comment No. 9:

Section 3, Page 2-1, Paragraph 1: The text states that the previously remediated segment of the DS Tributary is approximately 200 feet west of State Road. However, Figure 2A shows the segment location as approximately 630 feet north of State Road. The discrepancy between the text and the figure regarding the distance and direction of the remediated segment should be resolved.

Detrex Response to USEPA Comment No. 9:

The text will be revised to indicate the correct location of the remedial areas in the DS Tributary.

USEPA Comment No. 10:

Section 3.1, Page 3-1, Paragraph 3: The text does not state how the hand auger locations will be chosen. The text should be revised to provide the rationale for the selection of the hand auger locations. Specifically address what confidence the proposed spacing provides.

Detrex Response to USEPA Comment No. 10:

The text specifically indicates that the hand auger locations will be approximately 30-50 feet apart. The locations are intended to be a reconnaissance tool. If during the reconnaissance additional points are needed, then they will be added.

USEPA Comment No. 11:

Section 3.1, Page 3-1: The text indicates that 10 soil samples will be collected and submitted for analytical testing. The text should be revised to provide the rationale used to determine which soil samples will be submitted for laboratory analysis. The number of samples to be collected should be adjusted appropriate to the increase in the lateral and vertical extent of investigation.

Detrex Response to USEPA Comment No. 11:

The 10 samples described in Section 3.1 are sediment samples. There is no need to describe rationale for these samples because they are part of the reconnaissance survey and not intended to be used for vertical extent investigation. The samples from test trenches will be used for vertical delineation.

USEPA Comment No. 12:

Section 3.2, Page 3-1: There is a discrepancy between the text, which indicates that 10 exploratory trenches are to be excavated along the DS Tributary at approximately 100-foot intervals, and Figures 2A and 2B, which show that the exploratory trenches are to be excavated at approximately 140-foot intervals, with some intervals approaching 175 feet based on the scales of the figures. This discrepancy should be resolved. In

addition, neither the text nor the figures show the location of the proposed stockpile for DNAPL soils. The proposed stockpile locations should be indicated.

Detrex Response to USEPA Comment No. 12:

Figures 2A and 2B will be revised to include 20 trenches that will be spaced evenly throughout the DS Tributary. The location of the stockpile for DNAPL soils will be located on Detrex property as shown on Figure 2B.

prior to disposal

USEPA Comment No. 13:

Section 3.2, Page 3-1: The DS Tributary should be diverted to allow for trenching within the channel.

Detrex Response to USEPA Comment No. 13:

The Work Plan will be revised to include the diversion of water in the DS Tributary during trench excavations, as long as access can be maintained around the existing discharge lines from the landfill.

USEPA Comment No. 14:

Section 3.3, Page 3-2, Paragraph 1: The text states, "Sediment samples will be submitted from hand augering locations." The text should clarify whether the "hand auger locations" are the hand auger samples discussed in Section 3.1 or hand auger samples collected from the exploratory trench excavations. Additionally, the text should discuss how samples will be collected from the trench excavation. Finally, the text should explain the lateral and vertical locations of the headspace samples to be collected.

Detrex Response to USEPA Comment No. 14:

The text will be clarified to indicate that the sediment samples are the hand auger reconnaissance survey samples. The text will also be revised to describe sampling procedures from the trenches excavations, which includes grab samples collected from the backhoe bucket or in-place sampling using hand trowels if the trenches can be accessed safely.

USEPA Comment No. 15:

Section 3.3, Page 3-2, Bullets: If the sample contains DNAPL, it may not be appropriate to just bag the sample. The DNAPL could destroy the bag and lead to worker exposure.

Detrex Response to USEPA Comment No. 15:

The text will be revised to indicate that if DNAPL material is observed, then glass jars will be used for headspace screening.

USEPA Comment No. 16:

Section 3.3, Page 3-2: How will the PID data be used to direct field activities? Will the headspace readings determine what samples are to be sent for analysis? If the sample from the bottom of an excavation has the highest headspace reading of the lot, will the excavation depth be extended?

Detrex Response to USEPA Comment No. 16:

The text will be revised to include a discussion of how the PID will be used in the field. As described in the text, 2 samples will be collected from each excavation. These samples include the highest headspace reading and the sample immediately above the clay or till soil. If headspace readings are identified at depths greater than 6 feet or 3 feet into the underlying clay, a field decision will be made as to continuing to extend the trench depth based on safety precautions.

Terese ok

USEPA Comment No. 17:

Section 3.5, Page 3-3: Because PCBs were seen in Fields Brook downstream of the DS Tributary, samples should also be analyzed for PCBs.

Terese says ok

Detrex Response to USEPA Comment No. 17:

Based on the sampling results provided by FBAG in December 2008, there is no need to sample for PCBs.

USEPA Comment No. 18:

Section 3.8, Page 3-3: If samples contain DNAPL, additional sample packaging requirements for "high hazard samples" may apply and a "heads up" to the laboratory would be warranted. Note that the chlorinated DNAPL will eat through plastic bags and bubble wrap. Please check DOT regulations.

Let FBAG know so they can have somebody there + Sal TBAC Sale time x me a little.

Detrex Response to USEPA Comment No. 18:

As requested, if samples contain DNAPL then packaging requirements will be revised and upgraded. Since the laboratory to be used is local, shipping is not an issue and they will be notified of potential DNAPL.

USEPA Comment No. 19:

Section 3.9, Page 3-4: The fourth point of this section presents an incomplete thought. This point should be completed.

Detrex Response to USEPA Comment No. 19:

The fourth bullet will be corrected to remove the word "and".

USEPA Comment No. 20:

Section 3.11, Page 3-5: The text states that the diversions will remain in place until data is received and that an operator will remain at the site 24-hours a day to man the pump(s). What is the anticipated turnaround time on the samples?

What are they going to do if they see product. Either way might be ok dig it up then or later.

Detrex Response to USEPA Comment No. 20:

This section was written to describe remediation excavation in the DS Tributary. Sampling was not described or considered. However, if sampling is performed during stream diversions, it is anticipated the rush analysis could be performed and results received within 24 hours for VOCs.

USEPA Comment No. 21:

Section 4, Page 4-1, Paragraph 1: The text states that stream diversions will be necessary to complete the excavations but does not indicate which excavations (the exploratory trench excavation or the removal excavations, or both). If this statement applies to all excavations conducted, it is unclear why sampling cannot be conducted in the stream channel as explained in Section 3.2. The text should be revised to indicate which excavations and explain why sampling cannot be conducted in the stream channel. In addition, Section 3.2 should be revised as needed if sampling cannot be conducted in the stream channel.

We need to make sure we dig out any product around the discharge line.

Detrex Response to USEPA Comment No. 21:

The text will be revised to indicate that stream diversions will occur during both exploratory trench excavations and removal excavations. There may be some locations that cannot be accessed in the DS Tributary stream channel due to the discharge pipe from the sediment dewatering landfill area further upstream. Results from the reconnaissance survey will be used to identify these locations.

USEPA Comment No. 22:

Section 5, Page 5-1: The text states that goal of the excavation is to remove liquid DNAPL. If that's the case, how will the sample results be used? The data should be used to verify that what is to remain is under the cleanup goals and to verify the correlation between "allowable concentrations" of VOCs and the presence/absence of product?

Detrex Response to USEPA Comment No. 22:

The text will be revised to indicate that excavations discussed in Section 5 refer to the remedial excavations. The reference to liquid DNAPL removal will be deleted and reference to cleanup goals will be used.

USEPA Comment No. 23:

Section 5.2, Page 5-2: Ohio EPA should be contacted to ensure the acceptability of the contact water entering the Detrex treatment system. Detrex wouldn't want to put its NPDES permit in jeopardy.

Detrex Response to USEPA Comment No. 23:

OEPA will be notified of additional treatment aspects for water management.

USEPA Comment No. 24:

Section 6.2, Page 6-2: This section is entitled "Equipment." However, no equipment is discussed. Either the section should be re-titled, or the section should discuss equipment.

Detrex Response to USEPA Comment No. 24:

The text in Section 6.2 will be updated to include equipment used during remediation.

USEPA Comment No. 25:

Section 6.4, Page 6-2, Paragraph 2: The text states that water will be used to suppress dust from the stockpiles. The text should indicate the source of the dust suppression water.

Detrex Response to USEPA Comment No. 25:

The source of dust suppression water will be the Detrex facility. The text will be revised accordingly.

USEPA Comment No. 26:

Section 8.1, Page 8-1: The text should explain how often the interceptor trench will be monitored and whether samples will be collected on a regular basis for monitoring purposes.

Detrex Response to USEPA Comment No. 26:

The text will be expanded to include monitoring of the trench. Initially, the trench will be monitored in the same fashion as the North Sewer Trench, which is monthly. Based on results obtained, the monitoring program will be revised.

USEPA Comment No. 27:

Section 8.1, Page 8-1: A second interceptor trench should be considered for downstream on the DS Tributary. The DNAPL is often hard to find. Having a more downstream trench could help reduce the risk to the brook from material not found during investigation.

Detrex Response to USEPA Comment No. 27:

FBAG has installed trenches further downstream. At this time, there is no need for a second interceptor trench. The FBAG trenches will be monitored

HASP - GENERAL COMMENTS:

USEPA Comment No. H1:

The HASP does not include figures. However, many sections of the document refer to specific figures. Figures referred to in the text should be added to the HASP.

Detrex Response to USEPA Comment No. H1:

The HASP will be updated to include figures referenced in the Work Plan. Since the HASP was an Appendix to the Work Plan, they were not included.

USEPA Comment No. H2:

The HASP does not mention health and safety requirements unique to this project location, specifically, the requirement to have an air-purifying acid-gas escape respirator available at all times because of the large amounts of chlorine stored at the Detrex facility and other nearby facilities. Similarly, the text does not mention the related chlorine release alarm system for the Detrex facility or neighboring facilities. The text should be revised as needed to discuss these issues.

Detrex Response to USEPA Comment No. H2:

The HASP will be revised to include acid-gas escape respirator use and notification of facility specific alarm systems.

USEPA Comment No. H3:

The HASP numerous issues, such as undefined acronyms, inconsistencies, incorrect references to attachments and appendices, improper referencing, and inconsistencies between sections. Some example issues are listed below. The HASP should be completed and carefully reviewed to resolve all such issues and to eliminate all errors.

Detrex Response to USEPA Comment No. H3:

The HASP will be reviewed and updated to include responses to comments provided.

USEPA Comment No. H4:

Section 5.1, Page 5-1: The text lists the following chemicals of concern (COC): chloroform, hexachlorobutadiene; tetrachloroethane; trans-1,2-dichloroethene (DCE); and cis-1,2-DCE. No material safety data sheets (MSDS) are provide in the HASP for any of these chemicals. However, an MSDS is provided for 1,2-dichloroethane (DCA), which is not listed as a COC in the text. In addition, Section Two, Page 2-2 Field Screening and Sample Selection, Paragraph 1, states that tetrachloroethane is a COC. A complete list of COCs should be determined, the HASP should be revised to include MSDSs for all COCs and the COCs discussed should be consistent through the HASP.

Detrex Response to USEPA Comment No. H4:

The HASP will be revised to include MSDSs for all COCs.

USEPA Comment No. H5:

Section 6.3, Page 6-1: The text states that "the results of daily instrument calibrations can either be logged on the form provided in Attachment C or in the field book." However, the HASP does not have an Attachment C. The daily instrument calibration check sheets are provided in Appendix D.

Detrex Response to USEPA Comment No. H5:

The HASP will be revised to reference Appendix D for instrument calibrations.

USEPA Comment No. H6:

The text and the listed Standard Operating Procedures and Safety Management Standards are sometimes inconsistent. For example, the text lists URS SMS 026, but the Safety Management Standard is listed in Appendix B as URS 26.

Detrex Response to USEPA Comment No. H6:

The HASP will be revised for proper references to Safety Management Standards (SMSs).

HASP - SPECIFIC COMMENTS:

USEPA Comment No. H7:

Section Two, Page 2-1: Figures 2A and 2B are discussed in the text but are not provided. These figures should be included in the HASP.

Detrex Response to USEPA Comment No. H7:

Figures 2A and 2B will be included in the HASP.

USEPA Comment No. H8:

Section Two, Page 2-2: This section is entitled "Soil and Groundwater Sampling." However, the section does not discuss groundwater sampling activities. The section should either be retitled or revised to discuss groundwater sampling activities.

Detrex Response to USEPA Comment No. H8:

The HASP will be revised to include groundwater sampling activities.

USEPA Comment No. H9:

Section Two, Page 2-2, Field Screening and Sample Selection, Paragraph 1: The text states that "the sample screening will be conducted on the samples using a photoionization detector (PID) with a 10.6eV lamp." The text should be revised to indicate that a PID with an 11.6-eV lamp will be used because one of the COCs, tetrachloroethane, has an ionization potential of 11.10 eV (see the tretrachloroethane MSDS provide in Appendix A).

Detrex Response to USEPA Comment No. H9:

The HASP will be revised to indicate that a PID with an 11.6 eV lamp will be used.

USEPA Comment No. H10:

Section Five, Page 5-2, Paragraph 4: The text states, "Inhalation of vapors or particulates during the site activities will be minimized by air monitoring and the use of engineering controls, and respiratory protection will be used if action levels described in Section 9.0 are exceeded." The text should be revised to correctly indicate where the action levels are discussed because they are not discussed in Section 9.0. In addition, Appendix A discusses exposure limits, but it is not clear if the exposure limits are the action levels. If the exposure limits are the action levels, the text should be revised to state that this is the case.

Detrex Response to USEPA Comment No. H10:

The HASP text will be revised to reference that action levels are exposure limits.

USEPA Comment No. H11:

Section Five, Page 5-4, Paragraph 2: The text states, "The URS SMS 018 Heat Stress, Appendix F, will be implemented to address this hazard." The HASP does not have an Appendix F. URS SMS 018 is listed in Appendix B. The text should be revised to refer to Appendix B.

Detrex Response to USEPA Comment No. H11:

The HASP text will be revised to reference Appendix B.

USEPA Comment No. H12:

Section 9.1, Page 9-1, Paragraph 3: The text states, "The SSO will verify that all site visitors sign the visitors' log." This statement should be added to Section 5.3.14 (Site Access) in order to clarify site access requirements.

Detrex Response to USEPA Comment No. H12:

The HASP text will be revised in Section 5.3.14 to include site visitors signing the visitor log.

USEPA Comment No. H13:

Section Twelve, Page 12-1: The text states, "In the event of a fire or medial emergency, the emergency numbers identified on Table 12-1, Emergency Contacts, in Appendix C can be called for assistance." The text should also refer to the emergency hospital and give directions from the site to the emergency hospital.

Detrex Response to USEPA Comment No. H13:

The HASP text will be revised to reference and give directions from the site to the emergency hospital.

USEPA Comment No. H14:

Section Twelve, Page 12-4: The Ashtabula County Medical Center telephone number is listed as "440-997-6600." However, according to the website for the Ashtabula County Medical Center, (http://www.acmchalth.org), the telephone number is 440-997-2262. The telephone number should be verified and updated as needed throughout the HASP. This comment also applies to Section Twelve, Page 12-7, and Table 12-1.

Detrex Response to USEPA Comment No. H14:

The HASP will be updated to include the Ashtabula County Medical Center telephone number.

USEPA Comment No. H15:

Table 7-1: In this table, a supplied-air respirator is listed as a component of Level D Modified personal protective equipment. However, this component is not listed in Section 7.1 (Personal Protective Equipment Use). The supplied-air respirator should be added to Section 7.1.

Detrex Response to USEPA Comment No. H15:

The HASP will be revised to include the supplied air respirator to Section 7.1.

O&M PLAN – GENERAL COMMENTS:

USEPA Comment No. O&M1:

The headings at the beginnings of each section should be checked for errors. For example, the last three sections have incorrect section numbers and headings.

Detrex Response to USEPA Comment No. O&M1:

The text of the O&M Plan will be checked for correct section numbering and revised accordingly.

USEPA Comment No. *O&M2*:

The title of this document is misleading because the document includes sections that described proposed future activities, both investigative and operational. The document title should be changed to reflect the fact that the document also discusses investigative activities. Alternatively, the proposed investigational work could be broken out into a separate document.

Detrex Response to USEPA Comment No. O&M2:

The title of the O&M Plan will be revised to include additional investigative activities.

USEPA Comment No. *O&M3*:

U.S. EPA is concerned that there is not sufficient control of DNAPL and associated contaminated groundwater at the Detrex facility. This will be a major topic of the Five Year Review. Because borings are not sufficient to assess DNAPL presence/absence, additional investigative work, including trenches into the clay, should be discussed to assess boundary control.

Detrex Response to USEPA Comment No. O&M3:

As discussed with USEPA, trenches will be excavated along the DS Tributary. Excavation of trenches on the Detrex Site in areas where DNAPL may be found are problematic due to the presence of utilities, rail spurs and overhead piping and difficult access. Detrex is willing to discuss the specific areas where USEPA

would be interested in having trenches excavated to evaluate safety and access concerns.

O&M PLAN – SPECIFIC COMMENTS:

USEPA Comment No. O&M4:

Section 2.1, Page 2-1, Paragraph 1: The text states that 9 of the 12 recovery well are operational. The text should indicate which wells are operational and which wells are not.

Detrex Response to USEPA Comment No. O&M4:

The O&M Plan text will be revised to indicate the status of all recovery wells and describe those wells are operational.

USEPA Comment No. *O&M5*:

Section 2.1, Page 2-1, Paragraph 3: The text states, "Between October 2002 and September 2003, two wells were capped and taken off-line due to short-circuiting of injected air (RW-2 and RW-11) or excessive sediment production (RW-4 and RW-10)." This sentence suggests that four wells were "capped and taken off-line" instead of two wells as stated. This sentence should be rewritten as needed to resolve this discrepancy. If the text should refer to four wells, there is a another discrepancy between Paragraph 1, which indicates that three wells are not operational, and Paragraph 3, which may be rewritten to state that four wells are not operational. This discrepancy should also be resolved.

Detrex Response to USEPA Comment No. O&M5:

The text will be rewritten to clarify reasoning for recovery wells being take out of service and use.

USEPA Comment No. *O&M6*

Section 3.1.4, Page 3-2. The proposed investigation does not appear to extend to the lowest elevation that dense nonaqueous-phase liquid (DNAPL) has been found either within the Detrex facility or within Fields Brook and the Fields Brook flood plain. Because of contamination that ahs been found within Fields Brook and the Fields Brook flood plain since August 2007, investigation is warranted at the lowest elevation of one or

more of following areas as applicable: (1) the elevation where product has been found in the Fields Brook flood plain, (2) the lowest elevation at which any of the DNAPL extraction wells are set, and/or (3) the lowest elevation at which DNAPL was previously identified. The purpose of investigation to this elevation is to determine the presence or absence of DNAPL and potential migration pathways at those elevations.

Detrex Response to USEPA Comment No. O&M6:

Detrex has discussed this issue with USEPA. At this time, Detrex is proposing additional site investigative work along the western property boundary. As described in the Western Area Scope of Work, the depth of drilling for the western property investigation will be the lowest elevation where DNAPL has been identified in Fields Brook. Soil borings will be drilled through the glacial till soils and terminate at the top of the shale bedrock. Shallow and deep monitoring wells will be installed.

USEPA Comment No. *O&M7*:

Section 3.1.4, Page 3-2. The proposed investigation should not only serve to identify areas that have the potential to extract DNAPL, but also try to gather VOC data to support Detrex's contention that DNAPL is not moving beyond the known area of accumulation. See comments on Figure 4 below.

Detrex Response to USEPA Comment No. O&M7:

The text will be revised to indicate that additional data will be used to support the extent of DNAPL migration. As described in earlier responses, Detrex will be conducting additional investigations on the western property boundary.

USEPA Comment No. *O&M8*:

Section 3.1.5, Page 3-2. The text does not clearly indicate the locations of the proposed small diameter product recovery wells, and none of the figures included with this document show these locations. The proposed locations of the small-diameter product recovery wells should be shown on a figure.

Detrex Response to USEPA Comment No. O&M8:

A figure will be included in the O&M Plan to show the proposed locations of the small diameter product recovery wells.

USEPA Comment No. *O&M9*:

Section 3.1.5, Page 3-2. The current proposal is that the small-diameter wells will be pumped monthly. If there is significant recovery from a well(s), the frequency of extraction should be increased.

Detrex Response to USEPA Comment No. O&M9:

As requested, if significant recovery of DNAPL is identified from wells, then the frequency of extraction will be increased to bi-monthly.

USEPA Comment No. *O&M10*:

Section 3.1.6, Page 3-3. Additional information regarding the proposed product recovery trench should be provided. For example, the text should indicate if the trench will have a pipe at the bottom, how DNAPL will be recovered from the sump, and how long the trench will be.

Detrex Response to USEPA Comment No. O&M10:

As requested additional information regarding the use of a product recovery trench will be provided in the revised O&M Plan. However, before such a trench is installed, Detrex would like to further discuss management of excavation spoils.

USEPA Comment No. *O&M11*:

Section 3.1.6, Page 3-3. Establishing a containment cell at the facility is problematic because it is not an element of the existing remedy. While one could argue that the recovery trench approach is basically an expansion of the extraction well concept, the current remedy does not envision a containment structure for waste. Detrex has expressed concern about the cost of disposing of spoils but has provided no supporting information. Construction of a containment cell at the facility would require a modification of the remedy.

Detrex Response to USEPA Comment No. O&M11:

Detrex would like to further discuss the possibilities of establishing a containment cell onsite for excavation spoils.

USEPA Comment No. *O&M12*:

Section 3.3.1, Page 3-4: By evaluating the volume of water being removed daily from the Southern Area interceptor trenches and the concentration of VOCs in the collected water, one can draw some preliminary conclusions about the presence or absence of chlorinated DNAPL. The Fields Brook PRPs have noted that with the volume of water removed from the trenches and the concentrations of VOCs seen in the easternmost trench; it is likely the product is entering the trench. What is Detrex's conclusion regarding the likelihood that DNAPL is entering the system? Note that this is an issue for discussion. It does not need to be addressed within the O&M Plan.

Detrex Response to USEPA Comment No. O&M12:

Detrex will be providing a response to FBAG's calculation of DNAPL groundwater that is allegedly entering the eastern most collection trench. As previously indicated, Detrex does not agree with the approach used based on existing site soil and groundwater data and does not believe that DNAPL is entering the trenches. However, as designed the interceptor trench was installed to capture DNAPL, if it was migrating towards Fields Brook.

USEPA Comment No. *O&M13*:

Table 1. Please expand the table to be clear on the pumping and sampling requirements for all collection points. The text notes the pumping rate and duration for the southern area interceptor trenches, but the information is not included in the table. The pumping frequency for the North Sewer sump is not identified.

Detrex Response to USEPA Comment No. O&M13:

Table 1 will be revised to include pumping and sampling requirements.

USEPA Comment No. *O&M14*:

Table 1. MW06S should also be included in the routine sampling program.

Detrex Response to USEPA Comment No. O&M14:

MW06S will be included in the routine sampling program.

USEPA Comment No. *O&M15*:

Table 1. U.S. EPA is concerned that DNAPL and associated groundwater contamination could be moving beyond the current collection system. U.S. EPA will be evaluating this concern as part of the Five Year Review. Detrex should check the availability of other monitoring wells in the area to expand its database. Wells to the north by the landfills should be checked for VOCs. Are there any old Occidental Chemical wells remaining that might be useful? If the DNAPL is desiccating the clay, how much contamination could be entering the groundwater below the facility? There seem to be only three deep wells identified (MW02S, MW17D, and MW18D – all to the south of the main DNAPL area), and all three are only to be checked for elevations and DNAPL thickness. We need these three wells and any other available deep wells to be sampled for VOCs.

Detrex Response to USEPA Comment No. O&M15:

As requested, Detrex will review locations of former and existing monitoring wells on the Detrex facility. The reference to wells north by the landfills and Occidental Chemical wells is not data that is readily available for Detrex review. USEPA should contact de maximis regarding the landfill area and representatives of the former Occidental facility to determine presence of deep wells on these facilities.

As indicated, Detrex is planning to investigate the western property boundary and install additional monitoring wells and borings. As requested, Detrex will sample the three deep wells listed here (MW02S, MW17D, and MW18D) for VOCs.

USEPA Comment No. *O&M16*:

Figure 4. Additional DNAPL delineation borings should be placed beyond the Detrex property boundary to ensure that DNAPL is not moving beyond the property. Locations should include spots just to the north of the DS Tributary Interceptor trench (to ensure that the trench is deep enough) and just north of the known area of DNAPL (north of MW05S, north of the treatment building and north/northwest of MW06S).

Detrex Response to USEPA Comment No. O&M16:

As requested Detrex will add delineation borings north of the DS Interceptor trench and north of MW05S. It should be noted that previous investigative work

identified DNAPL in these areas. The presence of DNAPL offsite was the basis for the location of the DS Tributary collection trench and slurry wall location.

USEPA Comment No. *O&M17*:

Figure 4. When U.S. EPA and Detrex representatives met in Cleveland to discuss DNAPL delineation, there was also discussion about the lack of information within the facility area. Delineation borings should also be included within the operational area of the facility.

Detrex Response to USEPA Comment No. O&M17:

Detrex will add additional delineation boring in the facility operational area. However, the locations will need to be carefully evaluated due to presence of underground utilities, overhead utilities and site access issues. The figures in the O&M Plan will be revised to show locations.

SUMMARY CONCLUSIONS

Detrex has submitted the above responses to USEPA's comments to the Sediment Investigation/Removal Work Plan DS Tributary; the Draft Operations & Maintenance Plan and the Draft Health & Safety Plan. Upon review and acceptance of these responses, Detrex will submit revised documents to U.S. EPA.

Detrex would like to advise U.S. EPA of the following schedule of activities related to these responses and planned investigations in 2009.

1. The Western Area Investigation discussed in these responses is tentatively scheduled for the week of January 19, 2009, pending U.S. EPA review.
2. The reconnaissance survey and hand auger sampling will be performed following approval of the comment response report and final documents submitted. This is expected in the next 2-3 months (February – April 2009).
3. The trench excavations along the DS Tributary will be performed following approval of comment responses report and final documents submitted. This work cannot be performed until the discharge line for water from the sediment dewatering operation is removed from the DS Tributary and bank areas. At this time, access to sampling locations is restricted based on the location of the discharge. Also, any remedial activities in the DS Tributary will have to wait until the discharge line is removed.

4. The DNAPL delineation and installation of new small diameter recovery wells will be performed following approval of the comment response report and final documents submitted. This is expected in the next 2-3 months (February – April 2009).